REMARKS

Pursuant to a telephone conversation with the Examiner's supervisor Mr. Wael Fahmy on May 25, 2006, applicant is presenting herewith claims 31-35 in a form such that the claims should be readily allowable. Care has been taken not to raise new issues. In particular, (A) the words "comprises an encapsulating medium" have been moved from line 2 of original dependent claim 32 to lines 7-8 of base claim 31 as now presented; (B) "introducing a powder composed of" has been moved from line 3 of original dependent claim 32 to lines 9-10 of base claim 31 as now presented; and (C) "into the encapsulating medium" has been moved from line 5 of original dependent claim 32 to line 9 of base claim 31 as now presented. The word "material" has been added at line 12 of base claim 31 as now presented to conform with the antecendent at line 10 of base claim 31 as now presented (the antecedent phrase "ferrite magnetic material" being found in original base claim 31 at line 8). The phrase "but essentially no eddy current loss" was not present in original base claim 31, and has now been omitted from dependent claims 32-34 as now presented.

Rejection of Claims 31-32-33, 31-32-33-34 and 31-32-33-35 on Huang 5,138,431

An explanation of the patentability of Claims 31-32-33 is found in a three-page Declaration of Thomas Schuster; see for example, the Conclusion (B) at the last three lines of the second page, and continuing on the last page.

Huang does not teach or suggest the limitations in Claims 31-35 as now presented concerning "a **powder** composed of **ferrite** magnetic material" ... being **introduced** **"into the encapsulating medium" ...** "such that the ferrite magnetic material **does not**

itself prevent bending of the at least one of the electrically conductive paths". **The essential purpose of the metal ferromagnetic materials of Huang is to prevent bending of the leads of the leadframe prior to encapsulation!!**

Explanation Per 37 CFR 1.116(e) of Why the Enclosed Affidavit of Thomas Schuster Not Earlier Presented

Briefly stated, applicant responded to the earlier Official Action of 04/06/2005, by presenting amended claims 11-20, and new claims 31-40, which clearly avoided the grounds of rejection. Completely unexpectedly, the final Official Action repeated the prior rejection based on the following argument **which could not have been foreseen by the applicant**:

> "4. In the remarks, applicant argues that Huang does not teach a material that exhibits...essentially no eddy-current loss. However, Huang teaches a ferromagnetic material which is the same as that of the present invention. Thus, the characteristic of the same material exhibits the same effects."
>
> (Response to Arguments at Page 5 of the Final Action)

While the Official Action refers to Huang col. 5, lines 8-15, as teaching "a . relatively small amount of powder ...is introduced into the encapsulating medium", there is no teaching in Huang of introducing anything into the encapsulating medium. The Official Action completely fails to explain how Huang teaches or suggests the limitations in Claims 33, 34, and 35 concerning "a relatively small amount of the **powder** composed of **ferrite** magnetic material" being "**introduced into the encapsulating medium** such that the magnetic material **does not carry any of the electric current flowing to and from the wafer circuitry**", taken with the limitation of base claim 31: "such that the ferrite magnetic [sic] **does not itself prevent bending** of the at least one of the electrically conductive paths". **The essential purpose of the metal ferromagnetic materials of Huang is to prevent bending of the leads of the leadframe prior to encapsulation!!** Applicant could not foresee that important limitations of new claim 31-

33, and claims 34 and 35 dependent thereon, would be completely ignored in the final action; hence consideration of the Exhibits including the Declaration of Thomas Schuster seems warranted.

Request for Entry of Exhibits A, B, C and D Filed May 18, 2006 Should the Present Reply Not Place the Application in Condition for Allowance

Should the present Reply not place the application in condition for allowance, applicant respectfully requests that Exhibits A, B, C and D as filed May 18, 2006 be entered for purposes of appeal, for the reasons explained in the foregoing section.

GENERAL AUTHORIZATION UNDER 37 CFR 1.136(a)(3)

The Patent and Trademark Office is hereby authorized to treat this or any future reply, requiring a petition for an extension of time, as incorporating a petition for extension of time for the appropriate length of time.

The Patent and Trademark Office is hereby authorized to charge fees under 37 CFR 1.17 to deposit account 09-0471.

CONCLUSION

Applicant respectfully requests that a Notice of Allowance be issued in this case.

Respectfully submitted,

John H. Sherman

John H. Sherman, Reg. No. 16,909
Legal Department
Intermec Technologies Corporation
550 Second Street, SE
Cedar Rapids, IA 52401

Telephone: 319-369-3661

Enclosures: (1) Declaration of Thomas Schuster - Three Pages
(2) Petition for Extension of Time - Form PTO/SB/22 of One Page

Reply Under 37 CFR 1.116 - Expedited Procedure - Technology Center 2800

PATENT APPLICATION
(Attorney Docket No. 38219R2)

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

In re application of: Steven E. Koenck. **Examiner:** Hoa B. Trinh
Serial Number: 10/684,072 **Art Unit:** 2814
Filed: 10/13/2003
For: "Reduction of Electromagnetic Interference in Integrated Circuit Device Packages"

Commissioner for Patents
Alexandria, VA 22313

Declaration of Thomas Schuster

The undersigned, Thomas Schuster, hereby declares as follows:

(1) He is currently an employee of Intermec Technologies Corporation which has effective ownership of the above identified application.

(2) He has worked for Intermec and a predecessor Norand Corporation for twelve years, specializing in radio frequency communications systems and antenna design, and prior to that worked for seven years at Motorola Corporation specializing in radio frequency design and integrated circuit design. His present job title is Principal Engineer.

(3) He has reviewed the disclosure of the present Koenck application and of the Huang US Patent 5,138,431 (hereafter: "Huang").

(4) Huang notes at col. 1, line 67, to col. 2, line 5, that leadframes of copper have less desirable mechanical properties (e.g. are more easily bent and have a higher expansion coefficient) than leadframes of Alloy 42 which is a metallic alloy (42% nickel, 58% iron) with ferromagnetic properties. It is self-evident from the Huang disclosure that Alloy 42 is electrically conductive.

(4A) The purpose of FIGS. 6F and 6G at sheet 1 of the Huang drawings is clearly to add the mechanical properties of iron, cobalt or nickel, or an alloy of two or three of the ferromagnetic metals to leadframes of copper, so as to offset the disadvantages of copper leadframes as discussed at Huang col. 1, line 67, to col. 2, line 5; see Huang, col. 6, line 66, to col. 7, line 31.

(4B) Note the reference to ferromagnetic **metals** at col. 7, line 12, from which Declarant concludes that Huang is concerned with metallic ferromagnetic materials, while the subject Koenck disclosure is clearly directed to the use of non-metallic magnetic materials such as ferrites which have very high resistance.

(4C) Declarant has noted the following passage from the subject Koenck disclosure:

> [0023] In a preferred embodiment of the present invention a modeled plastic material 14 having desired electromagnetic properties to advantageously affect the signals to and from the integrated circuit 12 as the signals are routed through the lead frame conductors 16 of the device is utilized. **A small amount of ferrite powder is preferably blended with the plastic material 14** to achieve the slightly lossy magnetic characteristic of the encapsulating plastic medium 14 surrounding the lead frame conductors 16. Ferrite is preferred because of its high resistivity and permeability. (Koenck US Publication 2004/0075175, Emphasis Supplied)

The Koenck disclosure above re blending a small amount of ferrite powder with plastic material 14 (and as reflected in Koenck claims 33 and 34) shows the strikingly different concepts of Koenck and Huang. The small amount of ferrite powder of Koenck clearly does not have any relation to the use of ferromagnetic metal in FIGS. 6F and 6G of Huang; the small amount of ferrite powder taught by Koenck would not itself prevent bending of copper leads (see Huang col. 1, line 67, to col. 2, line1).

CONCLUSIONS

(A) The material contemplated by the present Koenck disclosure (e.g. non-metallic ferrite material with high resistivity) is completely distinct from the ferromagnetic metals disclosed by Huang (see sections (4A) and (4B) above).

(B) The concepts of the present Koenck disclosure and Huang are strikingly different since Huang seeks a ferromagnetic metal as shown in FIGS. 6F and 6G of Huang with mechanical properties such as great tensile strength to provide rigidity to a copper leadframe, while Koenck teaches "blending a small amount of ferrite powder" (a non-metallic oxide material with characteristic high resistivity) in the encapsulating plastic medium 14 to achieve a slightly lossy magnetic characteristic (see section (4C) above). Huang, of course, requires the support of the copper leadframe by the metallic ferromagnetic material **prior to encapsulation**, while the leadframe is being connected by means of bonding wires 32, to die 24, FIG. 4.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Thomas Schuster

Thomas Schuster

Date: May 15, 2006

PTO/SB/22 (12-04)
Approved for use through 07/31/2006. OMB 0651-0031
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Under the paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) **FY 2005** *(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)*	Docket Number (Optional) **38219R2**
Application Number **10/684,072**	Filed **10/13/2003**
For **"Reduction of Electromagnetic Interference in Integrated Circuit Packages"**	
Art Unit **2814**	Examiner **Hoa B. Trinh**

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	
☒ One month (37 CFR 1.17(a)(1))	$120	$60	$ 120.
☐ Two months (37 CFR 1.17(a)(2))	$450	$225	$
☐ Three months (37 CFR 1.17(a)(3))	$1020	$510	$
☐ Four months (37 CFR 1.17(a)(4))	$1590	$795	$
☐ Five months (37 CFR 1.17(a)(5))	$2160	$1080	$

☐ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 09-0471. I have enclosed a duplicate copy of this sheet.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the ☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☒ attorney or agent of record. Registration Number 16,909

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 ______

John H. Sherman — May 25, 2005
Signature — Date

John H. Sherman — 319-369-3661
Typed or printed name — Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☒ Total of one forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.